

THE NAVAL SAFETY CENTER'S AVIATION MAGAZINE

approach

September 1999

3,500 Hours of Lessons Learned

Do You Need a Hand-Held GPS?

My Dirt Nap



inside approach

The Naval Safety Center's Aviation Magazine

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On the Cover A P-3 from CPW-11 arrives at NAS Jacksonville. Photo by PH2 (NAC) Robert Fluegel of VP-45.

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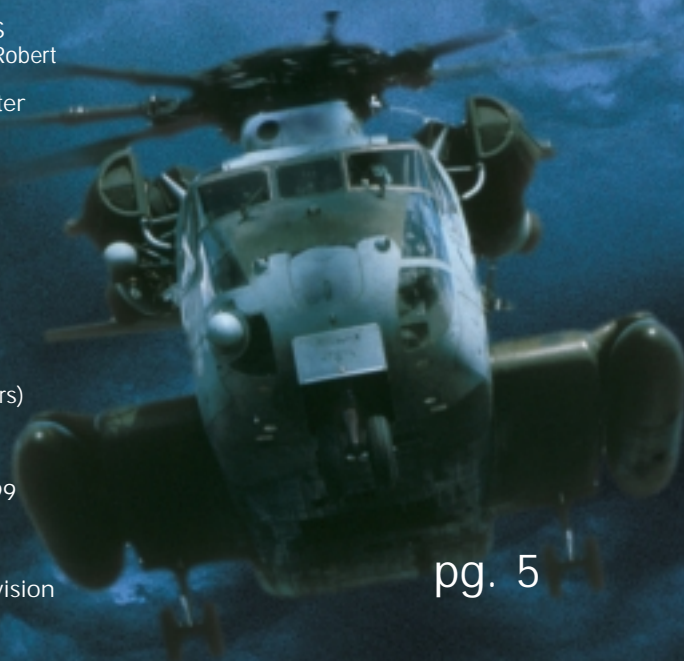
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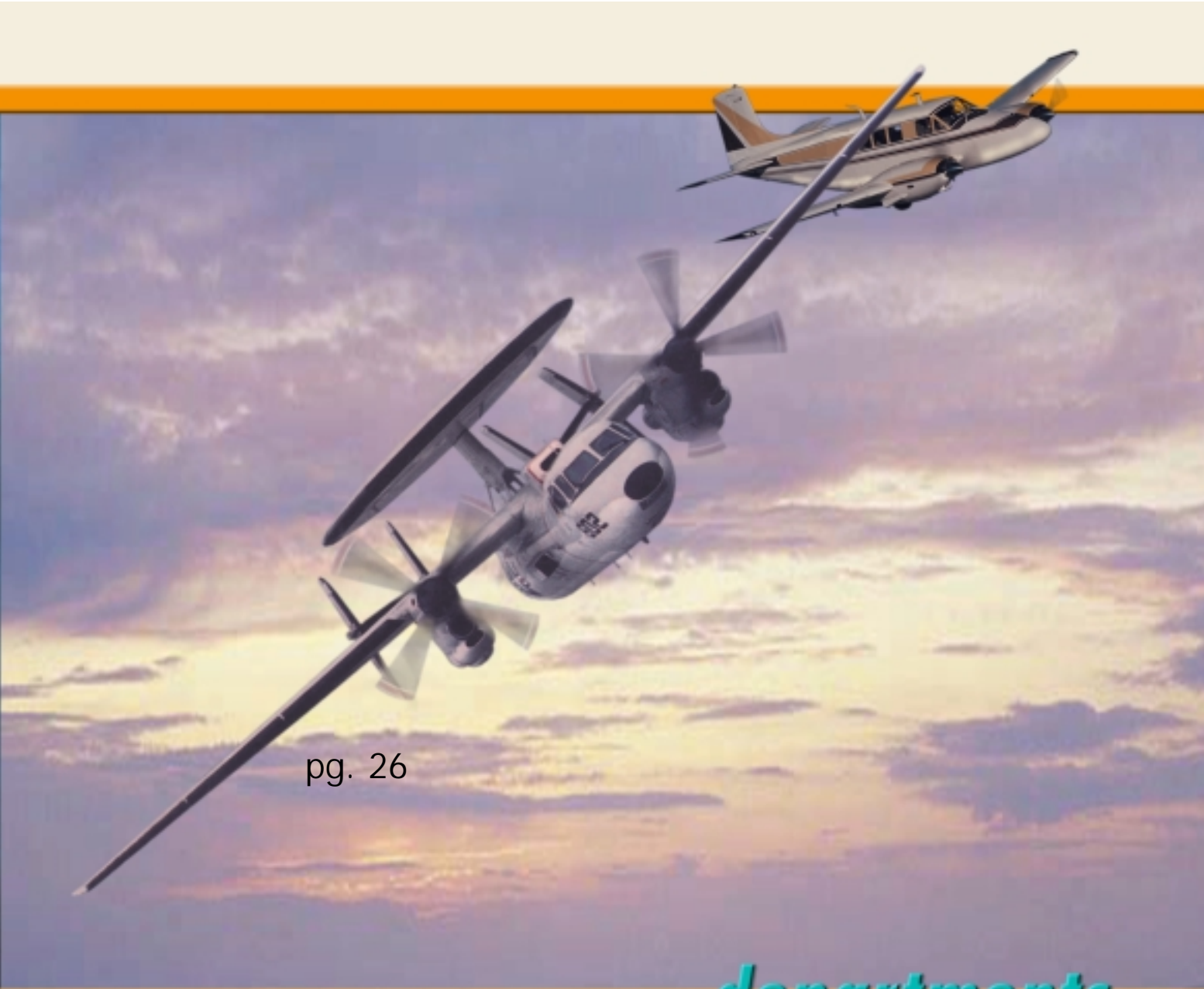
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Thirty-Five Hundred Hours of Lessons Learned



We learn to make split-second decisions, taking decisive action to do our mission, but that confidence can set us up to overstep our ability and make disastrous mistakes.

After flying jets for more than 16 years straight and accumulating more than 3,500 hours, I should be able to recognize and easily handle potential airborne hazards. We learn to make split-second decisions, taking decisive action to do our mission, but that confidence can set us up to overstep our ability and make disastrous mistakes. Sometimes the hardest part of flying is admitting we've exceeded our limits and bailing out from a bad situation.

Personal limits vary throughout your career, depending on how much you have flown recently and your proficiency for any given mission. You might not be quite as good as you think you are, or as good as you were six months ago. Recognizing this hazard is an important part of developing as an aviator and ensuring your survival.

What follows are a few scenarios I've encountered over the years that helped me become a better pilot. They taught me some involved significant lessons. I hope you can avoid similar dramas by thinking about your own personal limits.

Early in my career, I diligently calculated fuel remaining on cross-country flights, following NATOPS and SOP while flying as fast as possible and landing with exactly the prescribed minimum. Several times, I ran into unexpected, extremely bad weather, either at altitude or on a low-level, and I didn't have enough fuel to turn around or significantly alter my course. Squawking emergency and pressing ahead became monumental tasks that wasted my remaining fuel.

After other encounters with en-route delays, significant wind changes at altitude, and inflight emergencies, I learned to keep an extra reserve for the unexpected.

As an aggressor on an opposed section low-level, while observing the "enemy" section approach my holding point, I lost sight of one aircraft. Feeling confident in my SA, I didn't immediately call lost-sight but lagged behind his flight path while maintaining wings level, looking for the wingman. As his aircraft filled my canopy with almost 1,000 knots of closure, my mistake became apparent.

Crew coordination in a four-seat aircraft is essential to accomplishing the mission, but sometimes as the only pilot in the jet, I didn't tell the crew about potential hazards. Several times, I experienced severe vertigo on a night Case III, bad-weather approach, or while flying on a student's wing through clouds at low altitude. At one point, I was so disoriented I thought I

would have to eject if I lost sight of the student-lead aircraft during the approach.

While the pilot is the only crew member who flies the aircraft, another crew member can provide just enough help to ensure you don't turn a bad situation into disaster.

Reporting my vertigo might not have made it go away more quickly, but it sure would have heightened the crew's awareness of the problem.

Returning from a cross-country late one Sunday night, I found an unexpected low-level fog covering the runway. With weather at absolute minimums, I started the approach with a student who had minimal hours. As we descended through 200 feet AGL, the student told me he had the field, but he didn't mention that it was located well to the right.

By the time I saw the runway and got the aircraft on deck, we were past the 5-board, and a fellow instructor in the backseat was yelling to stand by to get the hook. Luckily, we didn't need it. A waveoff and a more thorough brief on the approach for my student copilot would have solved this problem.

Countless times, I have continued a landing that I should have waved off. Overshooting, undershooting, high—plenty of excuses—I just couldn't admit to myself that a waveoff was the right thing to do.

Flying out of Whidbey Island, you quickly learn to deal with wet runways. Precautions like always asking for recent braking-action reports from a similar aircraft, using the entire runway, and keeping your feet off the brakes through the slippery runway intersection all become routine.

Unfortunately, the reports you get aren't always correct. The conditions change rapidly, and you don't find out until you are sliding down the runway with the anti-skid pulsing away trying to stop the jet. Add carrier-pressurized tires and you have a recipe for disaster. The simple answer was to make a precautionary arrested landing, and to make that decision while airborne.

We used to practice a lot of low-altitude, war-at-sea strikes to combat the communist naval threat. Ensuring you were at the right place at the right time was key to the success of the entire strike package. In many cases, the latitude and longitude of the targeted ship changed many times while the strike was in progress, requiring quick calculation of required airspeed to reestablish your timeline. Inevitably, you had to speed up, which

meant burning more fuel. Always wanting to complete the mission as planned, I stretched the limit on fuel planning to fly the simulated strike. Once, after declaring my fuel state to the carrier, I got a priority immediate landing. Calculating and following your combat- and endurance-fuel ladder will keep you from a visit with CAG.

After several years of flying at low altitude, almost on a daily basis, in the restricted area around China Lake, my proficiency at making low-altitude turns was never higher. Long layoffs and recent restrictions on low-levels, however, make that skill disappear.

Because low-levels were intermittently approved or low-altitude flights were conducted over the water, I noticed a substantial difference in my comfort level and ability to perform any tasks besides just avoiding the ground. This same thing happened after any extended time away from flying.

While exceeding the posted speed limit on a local low-level, my radome imploded at more than 500 KIAS. After overcoming the immediate fear of ejecting, I realized the radome was gone, the engines sounded like they were about to die, and the leading edges of both wings were damaged. A divert field was within 20 miles, and we headed directly for it. Still anticipating imminent engine failure, we decided not to overfly the local town en route to the runway.

As we settled into a no-flap, no-slat landing, I realized I didn't know what approach speed to fly. Obviously, I needed to fly faster than a standard approach, but I didn't think I'd have time to slow-flight the aircraft with the engines sounding like they were about to quit. My approach speed definitely needed to be above tire speed, but

blowing a tire on the runway at high speed didn't sound like fun, either.

As I began slowing below 200 KIAS on final, I lost lateral control, but ground effect seemed to help just before touching down. After rolling out, I wondered how close I had just come to stalling the aircraft. Sometimes NATOPS doesn't prepare you for a particular scenario, but that baseline knowledge may be key to your survival. Make sure you review aircraft systems. Pay attention to those community safety messages and read publications like *Approach*; they contain lots of pertinent information. You might be the next one to have that same problem.

Once, on a dark, night Case-III approach, I got a somewhat-common unsafe-nosegear indication. Going through the long, unsafe-gear indication checklist, we followed all the procedures and tried getting a visual check. After rendezvousing on the tanker and taking the lead over the radio, the S-3 fell way behind and began to slowly rejoin. Several minutes later, we became more concerned with our gas than the visual check and decided to begin the approach. We were convinced we had a down-and-locked, electrical-switch malfunction, but we decided to finish the final part of the checklist and blow the gear down inside of 10 miles just to be sure.

As we rolled out on the flight deck, the nosegear slowly collapsed until our Prowler's nose was resting on flight deck. Don't treat a common malfunction as routine. You just might be wrong and have a real emergency that one time you aren't prepared for it.

Three bird strikes on one short detachment to Australia might have taught me to stop flying their low levels. Sometimes you

just have to give in and let the birds have 5,000 feet and below.

Proceeding IMC on a stereo route to the local MOA off the coast of Japan, my approach controller handed me off to the local center against standard procedure. Not sure the controller was giving me a proper IFR handoff, but concerned about flying IMC in Japanese airspace without talking to the proper controllers, I switched frequencies. Shortly after switching, I realized that center was not expecting us. As we flew in and out of clouds while trying to check in, I saw an airliner pass directly across our flight path about 1,000 feet below, followed by panicked calls from the controller.

A year later, I was cleared of any mistake but learned to pay closer attention to my clearance limit and not blindly follow a controller I thought was wrong.

I learned several lessons from close friends who died in aircraft mishaps. One flew into the ground on a low-level after doing an aggressive maneuver at a very low altitude. Another aviator delayed ejection until the last possible second and was killed as a result of equipment failure and the very high ejection speed. It had been a long time since he had the PRs hang him in his torso harness. His harness was out of rig, and the upper koch fittings flailed

against his neck and broke it. *[For another story on how important regular readjustments of the torso harness are, see "Survival at Night" on page 11.—Ed.]*

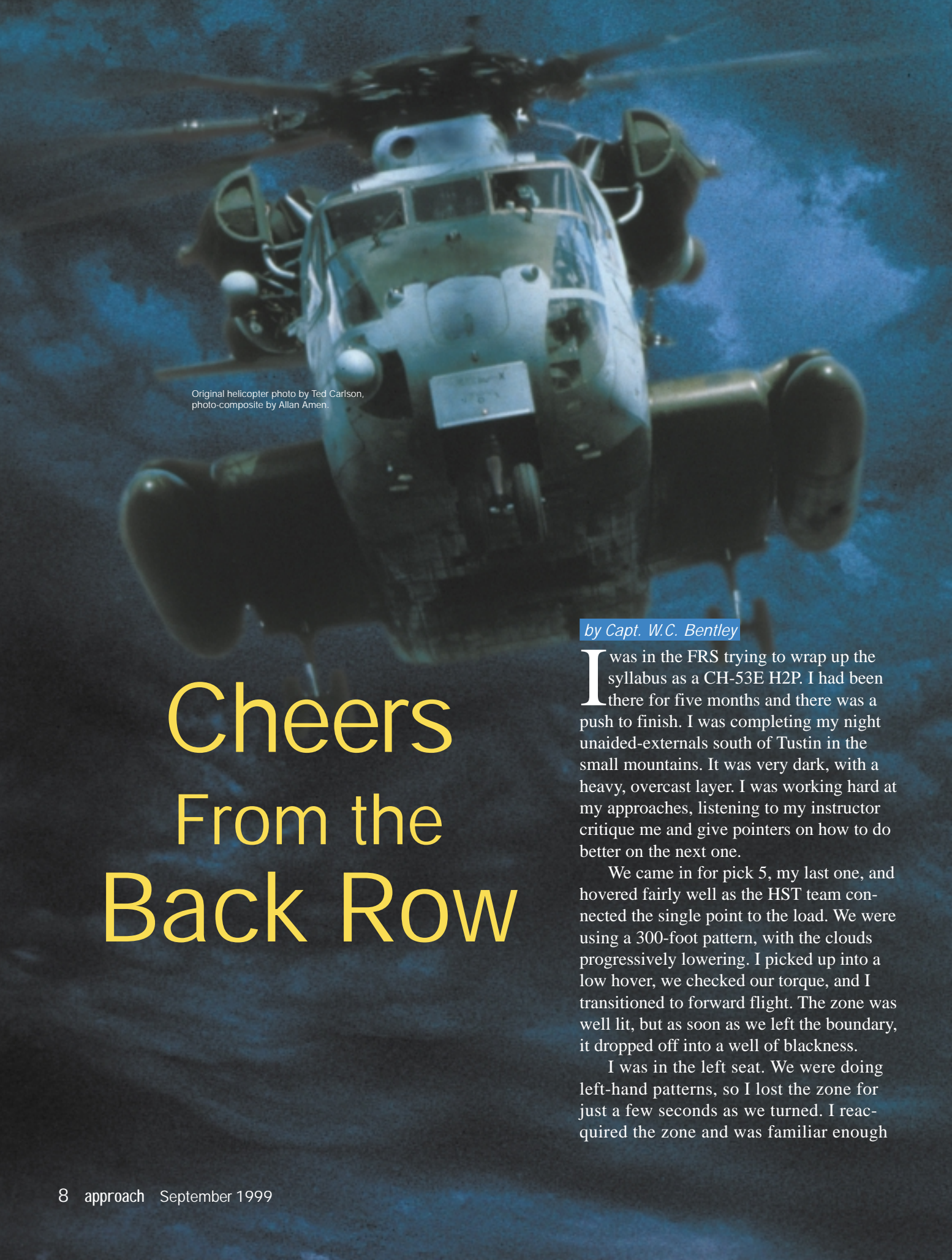
If I could pass on only one lesson learned over my whole flying career, it would be the one that has saved me the most over the years and will also save you. Just yesterday, it saved me again. As I started my climb at seven miles off the bow on a Case I departure, I glanced over to the right before starting a left turn and saw two F-14s crossing the bow at 7.5 miles.

Quickly pushing the jet over, I came within 100 feet of them without them ever seeing me. If you get nothing else from this article, remember to look out in front of your aircraft, and when you're done looking out, do it again just to be sure.

How to avoid most of these scenarios was apparent when debriefing afterwards on the ground, but somehow the simple answers never came to me in the air. If you want to survive, you need to evaluate yourself before every flight and ensure you are mentally and physically prepared. When you reach your limits after takeoff, don't be afraid to admit it to yourself and your crew. Don't push yourself beyond your own personal limits. You won't impress the old guys, and the consequences aren't worth it. 🦅

Cdr. Stahl was the CO of VAQ-135. He is now a student at the Industrial College of the Armed Forces at Fort McNair.





Original helicopter photo by Ted Carlson,
photo-composite by Allan Amen.

by Capt. W.C. Bentley

Cheers From the Back Row

I was in the FRS trying to wrap up the syllabus as a CH-53E H2P. I had been there for five months and there was a push to finish. I was completing my night unaided-externals south of Tustin in the small mountains. It was very dark, with a heavy, overcast layer. I was working hard at my approaches, listening to my instructor critique me and give pointers on how to do better on the next one.

We came in for pick 5, my last one, and hovered fairly well as the HST team connected the single point to the load. We were using a 300-foot pattern, with the clouds progressively lowering. I picked up into a low hover, we checked our torque, and I transitioned to forward flight. The zone was well lit, but as soon as we left the boundary, it dropped off into a well of blackness.

I was in the left seat. We were doing left-hand patterns, so I lost the zone for just a few seconds as we turned. I reacquired the zone and was familiar enough

with the pattern that my scan was almost completely outside. I heard my instructor call out that I was about 50 feet high, so I gently lowered the collective. The zone seemed to have an eerie light about it. My instructor said I was still high. About that time, the zone vanished!

I stared at the spot where I knew it had to be, but all I saw was white. The IP told me to put in some ball, but I was still looking for the zone.

"I have the controls," he said. In a daze, I relinquished the controls and turned to look at him, then my instruments. It was only then that I realized we were now in the clouds with a 10,000-pound block beneath us. The instructor said he would extend the downwind leg, then descend past the small knoll we had to fly around each time on final. I could not believe I had blown the pattern that badly, but I nodded in agreement.


We slowly descended and popped out where we intended to. He flew past the knoll, dropped the load in the zone, and announced we were complete. We had a number of enlisted maintenance students in the back, who were doing their required training. We flew out to the shore, switched up approach and climbed in radar contact en route to a TACAN approach into El Toro. As we climbed, I was feeling more than a bit foolish. However, I noticed we were not on the heading we had been given. I told the instructor the heading, and he turned back in the general direction.

As we rolled through the assigned heading, I became a little concerned and told him he needed to come back the other way. We did this a couple of more times until I just started telling him when to roll out. I had the approach plate out and kept us heading in the right direction. We started the approach, which took us into El Toro, then two left turns into Tustin. We broke out around 800 feet when a strange noise came from the cabin.

The students had let out a huge cheer. I thought it a bit strange, but I smiled, anyway. We went back and debriefed. The instructor didn't say much, except that I needed to watch my altitude and that our crew coordination had been outstanding.

Later, I recounted my story to a buddy who asked, "Do you think he had vertigo?" I almost fell over. It had never occurred to me. We brief vertigo ad nauseam, but neither of us had done a good job of recognizing it and countering it.

After I screwed up the pattern, I had never thought that my instructor might have had a problem. He had listened to me when I questioned him, and he was probably worried about my having vertigo from the pattern. I just never thought about it.

I think about flying in the soup bowl around San Mateo with a load in the clouds. It turned out fine, but it could have easily turned out differently. The guys in the back realized a great deal more than I did. 

Capt. Bentley flies with HMMH-464.

Dost deem that thy vessel needs gilding,
And the dockyard forbear to supply,
Put thy hand in thy pocket and gild her,
There are those who have risen thereby.

From "The Laws of the Navy"
Admiral R. A. Hopwood, R.N. (Ret.)

Personal Survival Equipment: Why I Carry a Hand-Held GPS

by LCdr. Ron Fry

Nearly 20 years ago, I memorized the above verse, along with 26 other verses and countless other "Reef Points" trivia as a plebe. When it comes to personal survival equipment, the lesson could not be truer. Adm. Hopwood was telling us that there are times our organization can't afford or does not have the foresight to provide us with equipment we feel we might need, and we may have to buy it ourselves.

Aviators are permitted to carry five pounds of personal survival equipment, and a hand-held global positioning system should be your first priority. It could save your life. This article will illustrate three possible scenarios using GPS, one each for land, air, and sea.



Land. I first decided to get a hand-held GPS three years ago, after an embarrassing incident during a

What About Buying That Commercial GPS?

LCdr. Fry raises several questions and points. One of the areas that garners a lot of interest, but the least magazine stories is that of survival gear—its generation, use and modification. Of course, everyone's got a stake in what's in their vests and how well it works when they need it.

LCdr. Tracy Conroy, SPAWAR PMW-187 (GPS Navigational Systems Office) and Mr. David Avery of DCS Corporation (SPAWAR PMW-187 Support/CSEL) offered a few notes.

In forward-deployed units, the PRC-112B is the preferred emergency radio-GPS receiver, to be followed by the introduction of the AN/PRQ-7 Combat Survival Evader Locator (CSEL). For non-combat areas, the AN/PRC-149 is now in production and will be issued to all CONUS and non-forward deployed units. All three of these survival radios have GPS-positioning embedded in their data transmissions, with the CSEL being a more secure, military GPS unit.

The PRC-112B is a fully tested (including EMI certification) and functional radio with integrated GPS, and it is in service. This system can send data bursts of information on a survivor's lat-long position and canned, free-form typed messages. For questions on the radio's operation and training, contact your local aeromedical safety officer (AMSO). For availability of assets (unfortunately, there are only a few available, and only for forward-deployed units), contact your type commander.

An even more capable radio with SARSAT-communication features is under development. This new system is the CSEL, which is currently scheduled for fleet introduction in FY 2003. CSEL will include GPS.

A hand-held GPS is acceptable for the five pounds of optional equipment an aircrew member is authorized to carry in his personal survival vest, to be used only in an emergency.

Its use inside the aircraft is authorized only in an emergency, at the pilot-in-command's discretion. Any other use in an aircraft is prohibited per CNO message DTG 021516Z Sep 98, which details CNO policy regarding GPS use.

Using any non-military GPS is done at the user's risk, because these units are subject to spoofing and jamming. They do not have any integrity testing to determine if these countermeasures are happening.

As part of the user's optional equipment, the GPS unit would not be inspected by the PR shop, except for the requirement that it be tied into the vest properly.

Regarding availability, most Navy and Marine Corps exchanges carry the Garmin line of lightweight land and marine GPS hand-held units. The aviation units can be found at various avionics and pilot shops. Here are a few of the GPS manufacturers' web sites.

<http://www.garmin.com>

<http://www.lowrance.com>

<http://www.upsat.com/precdes.html>

(formerly known as II Morrow, now UPS Aviation Technologies)

Thanks also to Cdr. Mark O. Baysinger, LCdr. Jeffrey S. Griffith, PRCS John Heck, and retired PRC Jim Krenak for their help with this story and for putting together this sidebar.—Ed.

hunting trip. I had been calling a turkey for about an hour in the mountains of the George Washington National Forest, but he wouldn't show himself. I decided to get closer and call again. After an hour or two of this, the turkey no longer answered my call, and I gave up. The problem was I was lost, although I did not know it.

I followed the stream that headed back toward camp, but apparently it was a different stream. I had a compass and an old map, but it was still four hours before I worked my way back to camp, where my hunting buddies all had a good laugh at my expense.

A recent news report described the plight of three hunters lost for two days in the Dismal Swamp of North Carolina. Having flown along the inter-coastal waterway next to the Dismal Swamp, I have seen how easily they could have gotten lost. Now I carry my GPS (with four extra AA batteries) and a chart or map with me whenever I hunt or fly. A compass might tell me direction, but only a GPS will tell me my exact location at that moment. If I have an aircraft emergency or get shot down, I can immediately orient myself, set way points for my current location and destination, and quickly head in the right direction.



Air. Imagine you are flying along, fat, dumb, and happy (and IFR) when you lose all electrical power. Your aircraft's GPS is gone, as is any sort of electronic visual presentation you may have had of your track. With a hand-held GPS you can immediately reorient your position, set a way point for your destination, and even steer the aircraft with its headings.

Granted, electromagnetic interference (EMI) issues may be a problem, but we are talking about emergen-

cies here. If you are experiencing a total electrical failure, there is no E, so there will be no I.



Sea. As an SH-60B pilot, I have often launched from a destroyer or frigate on a mission that took me as much as a hundred miles from the nearest ship. If I have a catastrophic transmission failure, I might have to ditch immediately. My parent ship could begin a SAR effort based upon my last radar position, and perhaps I could even transmit a lat-long position from my aircraft's GPS before I entered the water. Unfortunately, not all Seahawks are GPS-capable, in which case I could use my hand-held device to achieve the same result.

A rescue ship or aircraft may not arrive until much later. With drift almost certain, the rescue craft may not see me, but might receive my radio transmissions. I could broadcast my exact position taken from my GPS. I might even figure my drift rate and pass that along.

The weak link in the SAR chain in this scenario is my radio. If the rescue platform was not close enough to pick up my transmission, all my hand-held GPS does is tell me where I am going to be when I die. What I would need now is a powerful VHF radio that I can set to any channel. Why limit myself to Navy rescue platforms? I may have gone down close enough to a shipping lane that I could contact a passing tanker to pick me up. You can get a suitable hand-held GPS for less than \$200. Maybe you'll get one for Father's Day, like I did.

A 760-channel transceiver can be had for as little as \$375. One thousand dollars can get you the combination GPS-Comm package. Maybe we can get Uncle Sam to buy the GPS-Comm package instead of the \$6,000 two-channel radios we all carry now. 🦅

LCdr. Fry flies with HSL-42.

Survival at Night

by Lt. Dean Sibley

The last action that I remember was setting 10 degrees nose up on the VDI and going to full blower on both motors. The rest of my last three seconds in the Tomcat that night is a bit fuzzy, but it went something like this. I heard two loud pops, followed by rushing cool air and a bright light. The canopy started to peel back from the canopy rail in slow motion out of my peripheral vision, followed by another loud bang and a feeling of numbness. Things around me were still happening in slow motion, and I was vaguely aware that I had left my airplane.

I was sure I was spinning. (I was actually going to the left very quickly). The combination of movement, lack of horizon, and my head pointing down convinced my brain I was spinning. There was no pain or discomfort until the main chute deployed. It sounded like my mother was unfurling sheets in the summertime to be hung on the clothesline.

When the chute opened, I stopped immediately in the air, but it felt like my legs were torn off and fell into the water. If you do nothing else after reading this article, go to your PRs and have them hang you in your harness to make sure it fits correctly. I had been hung in mine just a week before this night because I had just arrived in the squadron. My RIO hadn't been rehung in quite some time, and his harness was slightly out of rig.

At this point, I knew this launch had not gone my way, and I had a busy night ahead of me. I reached up to take off my mask as I hit the water and heard three more distinct pops. I didn't realize that it was a signifi-



Photo-composite by Allan Amen.

I knew I had to get away from my chute, but it was so dark that I could barely see my own hands, let alone the parachute.

cant number at the time, but it would become important very soon.

The water was surprisingly warm. August off the southern coast of Japan wasn't too bad. I had taken off my mask, I was floating on my back like a child in a kiddie pool, and I now realized that I had ejected. The procedures came to mind very quickly, thanks to my Navy training. I knew I had to get away from my chute, but it was so dark that I could barely see my own hands, let alone the parachute. I could feel part of the chute lying on me, and I started to slowly untangle myself and try to scull away from it. It soon became apparent I was still attached somehow to my chute. The consequences of the three pops that I heard earlier now became clear. My left SEAWARS fitting hadn't blown when I hit the water and was now lying limp in the water on the far side of the head lobe of my SV-2.

I had practiced releasing it manually, but on each occasion, there was either tension on the line, or my hands were already on the fittings when I hit the water. After a minute of choking down the fear and anxiety that were building as I thought I was going to drown, I released the fitting by pulling on the riser with my left hand and flipping the release with my right. I was grateful my arms weren't injured, or this would have been impossible. Try that one the next time you are in the refresher pool.

I noticed one of the alert helicopters circling off to the right, obviously looking for my RIO and me. I found my flashlight and tried to signal the helicopter with quick flashes, but soon realized that I still had my red lens on, and this was getting me nowhere fast. With all the adrenaline flowing through my system, my strength was a bit much for the flashlight, and I unscrewed the entire light bulb out of it.

It took me a moment to realize why what had been a perfectly good flashlight a second ago was now broken. It occurred to me that this flashlight wasn't going to work because I had gotten water inside it, but I screwed the bulb back in and gave it a try. Like a searchlight over London during World War II, a beam of light came out of it. I took a moment to say, "That is one damn good flashlight." I put the light beam on the helicopter.

Now, I heard a low rumbling coming from behind me, and turned to see the *USS Independence* heading right for me. I determined I had a bit of starboard aspect and started sculling backward like Mark Spitz. I saw that my RIO, who was about 20 feet behind me, was swimming in the opposite direction. I yelled to him he

was going the wrong way. (The scene from the movie "Planes, Trains and Automobiles" came to mind, and I half expected him to respond with, "How do you know where I'm going?") He reversed direction, and we started to swim toward each other and away from the ship, just about the time that the first bow wave got to us.

I firmly believe that this first wave saved our lives. We were just far enough from the bow to get pushed away by the wave, instead of going up and over it, then down into the suction along the hull. As the ship passed by at about 100 feet, I noticed the glowing tips of cigarettes from the smoking sponson and wondered if anyone saw us.

Less than a minute after the ship passed, the aft helo's spotlight was on us. As my RIO and I prepared for our rescue, the procedures again came rushing back in my mind. We both still had our seat pans attached and got rid of them. My RIO reminded me not to touch the hook until it hit the water, just as I looked up to see the glorious sight of a rescue swimmer descending from the hook. His last name was Peterson, and I will never forget him.

My RIO thought he had broken his ankle from the seat slap, so the helo took him first. As he was being lifted to safety, Peterson swam over to me and repeatedly asked if I was OK. My greatest fear was that I was going to do something stupid that he would perceive to be threatening or out of control, and that he would have to dunk me or pop me in the face to calm me down.

I connected my lobes and, once hooked up, clasped my arms around them and turned my face away from the hook, just like in AI. This wasn't necessary, of course, because the swimmer had me bear-hugged as we were hoisted up.

I didn't have to worry any more about surviving, just dealing with the fact that I was a half-inch shorter than when I climbed into my airplane that night, but I do have some lessons learned that may help you. (Actually, I've regained a quarter inch, but I will never be my original height again.)

Review your procedures in your head often and know where your survival gear is in your SV-2. Don't wait for the scheduled inspections to have the PRs check your gear; they aren't wearing it. My RIO's helmet had been cracked so badly by his right SEAWARS fitting that the right side could fold across and touch the left side. 🇺🇸

Lt. Sibley flies with VF-154.



by Lt. Carlos Aranda

We've all heard the famous saying, "It's better to be on the ground and wishing you were in the air than being in the air and wishing you were on the ground." I hadn't actually felt that way...until recently.

The flight consisted of two S-3Bs flying a 13-point low-level, which culminated in a bomb-ex at multiple delivery angles. We departed NAS Cecil. The low-level entry point was 150 miles from base and essentially consisted of a round robin into the Peach State, ending close to the remote bombing range. Midway through the low-level, our savvy aircraft commander noticed the No. 1 feed tank slightly low. This condition wasn't right because the feed tank does not start to diminish in quantity until the transfer tank is completely empty, and at this point in the flight, we had not burned enough fuel.

Noticing a slight dip, we decided that perhaps it was a bad gauge, and we would check it later. Later, we verified its condition and were comforted with the indication of normality that the gauge now gave. Must have been some weird glitch.

After we entered the range and started our bombing pattern, the feed-tank gauge once again indicated a problem. We knew that during intense maneuvering, the feed-tank gauges often give wrong indications, but we began to pay closer attention. The 1,200 pounds of fuel in each of the feed tanks translates to a bingo profile of 200 miles. The remote bombing range was approximately

Continued on page 33

With aging airframes, we have to make it part of our ORM to include the possibility that parts we take for granted may wear out.

**OK,
I'm Ready
To Land
Now**

by Lt. Joseph P. Ireton

Maintenance control told us they had three aircraft up for test. As the FCF crew, we knew it would be a long day, especially because it was early June, and the sun didn't set until 2020. Two of the aircraft were just ground turns and wouldn't take too much of our time. However, the third helo would take longer because it needed multiple runs to evaluate the rotor track and balance.

We decided to preflight the first two Sea Knights and complete the ground checks before going on to the third aircraft. We finished the work on the first two aircraft by noon. We went to lunch and preflighted the third helo afterward. We had completed three runs during the afternoon and early evening. Each run took 45 minutes with about an hour's worth of adjustments in between.

It was now 1900, and after the third set of adjustments, we were on our way back to the aircraft for the last run of the day. We were tired and ready to finish up.

We strapped in and were down to No. 1 engine start. Bringing the No. 1 ECL up to crank, my copilot and I saw normal engine indications. When I brought the ECL to start, the engine lit off immediately, and the

T5 rose rapidly, approaching 800 C. I brought the ECL to stop before overtemping the engine just as the T5 reached 800.

After I told the crew about the hot start, I heard my first crewman utter a few "flowery" words, followed by, "Sir, I forgot the intake covers."

We had followed the checklist for engine start completely, the first step being, "Engine intake covers—removed and stowed. No FOD evident." Although the crewman had said these words, he had not done the task.

While my copilot and I could not tell if the covers were removed once we were strapped in, as the HAC, I was as much to blame for this oversight as my crew chief. The primary reason for this mistake and possible damage to the No. 1 engine was fatigue. I should have better evaluated our crew effectiveness as we headed into the twelfth hour of the check-flight sequences. 🦅

Lt. Ireton flies with HC-6.

Then there's the question of what was the plane captain doing? He could have seen the intake covers still in place before starting up.—Ed.

Too Tired




Photo-composite by Allan Amen.

After I told the crew about the hot start, I heard my first crewman utter a few “flowery” words, followed by, “Sir, I forgot the intake covers.”

To Preflight



ORM Corner is a bi-monthly department.

Please send your questions, comments or recommendations to Mr. John Mahoney, the ORM coordinator at the Naval Safety Center, or to Capt. Denis M. Faherty, Director, Operational Risk Management. Mr. Mahoney's address is: Code 70, Naval Safety Center, 375 A St., Norfolk, VA 23511-4399. DSN 564-3520, ext. 7243. Comm: (757) 444-3520, ext. 7243. E-mail: jgmahone@safecen.navy.mil

Write Capt. Faherty at OPNAV Code N-09K, 2000 Navy Pentagon, Rm 5E-816, Washington, D.C. 20350-2000, DSN 224-8430. Comm: (703) 614-8430. E-mail: faherty.denis@hq.navy.mil

Burned-Out Fuses, Brown Dust, and... Here Comes the Train!

by LtCol. Peyton DeHart

Whenever an East Coast Cobra or Huey squadron ferries aircraft to Twentynine Palms, for CAX, it's a three-day adventure in terrain appreciation. The landscape is breathtaking in places; sometimes the weather is, too.

On one such trip, flying on AH-1W SuperCobra, I made my way across this great country navigating from charts, TACAN, and the Trimble Global Positioning System (GPS), which sits above the copilot's glare shield. A comm-nav upgrade is slowly outfitting the Cobra fleet with an embedded GPS, but most "Snakes" use a portable box hooked to aircraft power.

A few hours into the trip, the aircraft stopped powering the GPS. The copilot fiddled around with the thing and found that the power wire's fuse had burned out. The

GPS' internal battery quickly ran out of juice. At the altitudes we were flying, we couldn't pick up TACAN, so we used charts and navigated the old way. Everything was OK until El Paso. There, a strong head wind from the west with gusts to 50 knots had kicked up the top layer of dirt from the deserts of New Mexico. A great brown wall of dust, well over a mile high and 200 miles wide, stood in our path. My copilot and I tried to go over it, but the brown cloud extended far above 10,000 feet.

Sigmets for freezing rain and snow on the other side of the dust storm prevented us from trying to fly the route IFR. We tried to go under it. By the time we were down to 300 feet, not able to see more than half a mile in front of us, discussing recognition distance versus reaction time, we decided

to return to the relatively clear air of El Paso. That crew-coordination exchange sounded like

“Sucks!”

“Yup.”

“Tomorrow?”

“Yup.”

The next morning on the way to the airport, we stopped by an auto parts store to get a replacement fuse for the GPS. “That fuse is worthless,” said the guy behind the counter.

“Yeah, I know,” I replied.

“It’s burned up,” my frontseater added.

“No. I mean that I have so many of them back in a drawer, I’ll give it to you free.”

“Oh...thanks,” my copilot said, although we didn’t appreciate at the time how exceptionally valuable that “worthless” fuse was. At the FBO, we met a Huey

crew from our squadron. Like us, they were traveling single plane, had tried to penetrate the sand storm (at night!), and returned to El Paso when they had their fill of being scared. I concluded that we either belong to an exceptionally brilliant, ORM-savvy unit or, like everyone knows, get-there-itis is never a concern when the destination is Twentynine Palms.

The conditions that morning were the same as they had been the day before. Fifty-knot winds still whipped across the desert. The Huey crew asked if we would like to join up as a section for the flight through the maelstrom. I considered the likely altitudes and visibility we would be working with and opined that with our different powerplants, neither machine would be well served trying to fly formation off the other. The midair potential in the very likely event of lost sight

Photo-composite by Allan Amen.

I’d have spent the night parked in the desert if a friendly guy at an auto shop hadn’t given us a “worthless” fuse.

was not a risk I wanted to run. The Huey crew took off by themselves.

Destination Davis-Monthan, we set off in the Cobra on a straight line (courtesy of the now-functional GPS) across the trackless desert. Like the previous day, a wall of dirt hung suspended in the air west of town. It still rose to well above 10,000 feet. We punched in at 500 feet AGL and made about 20 miles of headway before we had to get lower and slower to keep the ground in sight.

We started to lose contrast over the dry salt lakes. Eventually forced down to 50 feet, with virtually no forward visibility, it became obvious that we weren't going to go any farther on that path. Anxiety on the increase, we needed to shift to Plan B. But first, we needed to formulate Plan B; and to do that, we needed to eliminate the distracting task of trying to avoid running into the ground. I landed in the middle of a nameless, faceless wash on a salt plain so we could pour over the charts without having to fly at the same time.

Once on deck, we looked at the desert shrubs bent over by the force of the gale. The farthest one we could see was 100 feet away.

"I wouldn't go hiking in visibility like this. What am I doing trying to fly through it?" I asked aloud. There was nothing to focus on, just brown dirt swirling in the air over a brown dirt-desert.

No TACAN was near enough, the featureless terrain made reading the chart useless, and time-distance dead reckoning was suspect in shifting 50-knot winds. If the GPS didn't give us a good solution, we would have to shut down and camp out to wait out the weather. Fortunately, the box fixed our position 10 miles from a railroad line. We could backtrack to it and then follow the rails into Demming, New Mexico. Plan B agreed on, I found I could climb to 100 feet without losing sight of the ground. I was now headed back east, downwind.


The GPS showed 70 knots ground-speed, though the airspeed gauge read zero. The helicopter required an armload of collective, and it was shuddering in a

familiar way. It finally dawned on me that I was being pushed at 70 knots over the deck in an out-of-ground-effect hover. Pretty decent wind!

After a few minutes, we hit the rail line and now, with something to focus on, followed it across the desert floor to Demming. Landing without incident, I noted that it had taken us two hours to get 70 miles closer to our destination (normally, a half-hour trip) and saw that the Huey had beaten us there.

Like before, their story was similar to ours. They had tried the desert route, and when that became impossible, fell back on the same railroad track and followed it to town. They hadn't been forced to land in the desert, but told an equally entertaining story of watching the three headlights of the oncoming train materialize a few hundred feet in front of them. They had yanked the cyclic back and cleared the engine, but still felt the buffet from the wind blast of the train as it passed.

Now safely inside the FBO, I looked out the window and said, "Looks like the worst part of this is already over." At that instant, it began to hail. After the round of laughter subsided, the weather system really did move on. Behind the hail was clear, big sky, with 50 miles visibility along the route of flight. We ran out of excuses to delay our arrival at Twentynine Palms and made it there later that day.

Aviate, navigate, communicate... always accomplished in that order. When the weather made flying so difficult that it pushed us to the edge of task saturation, we landed to eliminate the task of aviating. Then we had enough time and energy to focus on choosing the best navigation solution available. We got where we wanted to go, if slowly. But I'd have spent the night parked in the desert if a friendly guy at an auto shop hadn't given us a worthless fuse. 

LtCol. DeHart flies with MAG-42. He received the 1998 Grampaw Pettibone Award for helping to promote aviation safety awareness through publications. He has had 20 stories published in *Approach* in six years.



Buckeye Buckaroo at Choctaw

by Lt. Colin Mclean

What a great time to be flying! I was at VT-4, flying jets in Pensacola. There's not a better deal in the Navy. My class was in the middle of FCLPs, and in less than two weeks, we would bring our Buckeyes aboard a big piece of floating real estate. But first, we had to get past FCLPs and the LSOs.

It was a typical May morning in the panhandle. We could expect unstable air all day, with thunderstorms developing by mid-afternoon. At 0600, the senior LSO briefed us on the events for the day. Half the class would fly to Choctaw as a formation, while the other half, me included, would pile into the duty van and drive 35 minutes down I-10.

The first group of students would complete eight passes, hot pump, then my group would spin in for our

period. After an hour's break, we would do it all over again. The guys who drove over in the morning would get to fly back for the break at Pensacola.

Although this was only our second day of FCLPs, we had all flown at Choctaw numerous times during the previous five months. We were familiar with the course rules and the visual checkpoints our LSOs briefed. They told us to expect some turbulence as the ground heated up and produced thermals, and when the wind hits the tree line. Flying at Choctaw was always interesting.

I was scheduled to spin into aircraft 800 after my roommate finished his period. I wasn't very excited. The day before, the same plane had given him fits. The attitude gyro had failed, a repeat gripe. So much for that instrument turn, I thought. My roommate was



Normally, the Buckeye will jump into the sky following a touch-and-go, but not this time.

even less thrilled than I was. I told him I'd see him on the deck at Choctaw and left for the drive in the "luxurious" duty van.

At Choctaw, we watched our classmates in the pattern. I walked out to 800 after it left the fuel pits and waited for my room-

mate to step down from the cockpit. I asked how the plane performed.

"Great!" he said, and gave me a big thumbs-up.

"Well," I said to myself strapping into the jet, "no more worrying about the attitude gyro."

The left engine had been secured for the fuel pits. I restarted it and taxied out to the hold-short for runway 36.

At the hold-short, I watched a Buckeye come down the glide slope, obviously fighting gusts coming from the trees. After he passed, I received my clearance, rolled onto the runway, and took off into the pattern. I lowered the flaps to full and climbed up to 500 feet. I spotted my interval and turned crosswind.

Climbing up to 600 feet, I brought the power back and checked airspeed and AOA. Fifteen units is optimal in the T-2. Everything looked good as I flew over the downwind checkpoints. The plane lurched up when I crossed an

open field. I cursed as I tried to keep the plane close to on-speed and away from the rudder shakers. I missed the standard abeam call, already behind the airplane. Then it was time to turn.

At the 180, 600 feet, on-speed, 450-500 fpm down. At the 90, 470 feet, already high. Power back to get 600 fpm down. Fighting through turbulence. A quick peek outside. Adjust the turn.

At the 45, 380 feet, still high. Power back a little more. On-speed. Another big gust. Looking for lineup and the ball. No ball.

In the groove, 300 feet, high ball. Power back. The plane was all over the sky.

Then from the LSO, "Call the ball."

I was still behind. "Eight zero zero, Buckeye, ball, two point six, Romeo three." "Roger, ball"

Ball still high. A little slow. Ball coming down. I added a lot of power to keep it near the middle of the lens, but it kept falling. As I touched down, I saw red on the lens. I cursed as the power levers went to MRT and the speed brakes retracted.

Normally, the Buckeye will jump into the sky following a touch-and-go, but not this time. The plane felt very sluggish. I set 16 units AOA and saw a 200-fpm climb. Glancing at the engine instruments, I realized the left and right gauges didn't match.

I keyed the radio and said, "Eight zero zero has an engine failure."

I kept climbing upwind at 16 units AOA, while the LSOs directed all the other Buckeyes to delta overhead. I saw that the left engine rpm was at 51 percent (around idle), while the exhaust gas temperature (EGT) indicated 870 C, well beyond the limit of 732 C. Moving the power lever had no effect whatsoever on the engine.

I was turning downwind at a comfortable 800 feet, when the senior LSO called to ask my status. After hearing my engine indications, he told me to secure the left engine. I must have moved the power lever 20 times before I pulled the idle stop and cut off the engine. The plane yawed a little to the left as the engine spooled down, requiring some rudder trim.

I flew a wide downwind as the LSOs briefed the single-engine recovery. I extended off the 180 for a 2-mile straight-in. I raised the flaps to one half and kept the speed brakes retracted. The LSO told me to remember to fly slightly fast at 14 units. The LSOs also said to call the ball at three quarters of a mile and to fly to runway centerline.

I turned final and started my descent for the runway. I called the ball and tried to keep it on the lens. The plane got a little slow in close, and my rate of descent increased. I landed with a low ball, but I was safe on deck. I taxied back to the line, where all my classmates had assembled to watch the proceedings.

After shutting down and telling the mechanics about the engine, I was met by one of the squadron instructors. I described everything that had happened.

"Did you raise the gear when you realized the engine had failed?" he asked. I replied that I hadn't.


He reminded me that NATOPS procedures for an engine failure on takeoff call for raising the gear. I was silent.

He told me to cool down and asked if I could continue with FCLPs for the day. I told him I felt fine. I wasn't about to get behind the rest of my classmates.

Twenty minutes later, I was back in the sky completing my eight passes.

During the debrief, we discussed my first pass that day. The plane had started above glide slope, and I never stopped it from going well below glide slope. The LSO suggested the left engine had probably failed during that pass or during the approach turn. I had not recognized it. I had thought that the engine failure had occurred when I advanced the power levers to MRT.

I walked away that day having learned some valuable lessons. First, I was fighting the airplane so much during the approach turn that I was not aware of any engine problems. I was wearing blinders and did not hear or feel anything from the failed engine.

Second, had I raised the gear after realizing my problem, I would never have climbed at only 200 fpm. What if the engine had seized, instead of just rolling back to idle rpm? Would I have had that 200-fpm climb? I'm glad not to have found out. 

Lt. Mclean flies with VAW-113.

POP-UPS

Edited by LCdr. Mark Enderson. Contributors can contact him at (757) 444-3520 Ext. 7245 (DSN 564). E-Mail address: menderso@safecen.navy.mil



Hearing Loss — A Losing Battle?

From 1968 to 1997, DOD spent more than \$3.96 billion for hearing-loss disability benefits. In 1997 alone, the Navy spent \$40.3 million. In the current climate of shrinking budgets, doing more with less and struggling with manpower shortages, how can we afford such losses? Everyone has hearing-conservation programs in place, but is this safeguard enough? Is hearing checked frequently enough? Who is most at risk? What controls are in place? Is anyone truly supervising the controls and enforcing their use?

Noise is an inescapable part of life aboard an aircraft carrier. Pumps are running, chiller units humming, arresting-gear cables are being cycled or retracted, no-loads fired, aircraft turning, 1MC or 5MC announcements are blaring.

The effects of hearing loss are largely cumulative. Prolonged exposure can cause permanent hearing loss.

Most aviators understand the safeguards needed to protect them from noise hazards. But aviators are exposed to these conditions on a more limited scale. Consider the constant exposure to high-level noise endured by flight deck personnel and squadron troubleshooters.

Have you ever gone past an arresting-gear engine as it takes a hit? The noise is literally painful. Prowlers in tension, Tomcats in full zone 5 afterburner, JBDs cycling up and down, the shuttle spears hitting the water brakes. The list goes on and on.

Capt. Robert Hain, Director of the Research and Technology Directorate at the Naval Aerospace

Medical Research Laboratory, pointed out that every 6 dB noise increase equates to an associated 100 percent increase in energy since decibels are measured on a logarithmic scale. Capt. Hain also says "...that above 135 dB, double hearing protection is inadequate." He explains that above this threshold, the bones of the head actually act as a conductor for the noise, and the only way to combat this phenomenon is with some type of full head covering using acoustic-dampening materials. But further R&D is still required.

We are at a crossroads. Continuing with the status quo is not an acceptable solution, and research and development are lagging behind the rapid advances in equipment upgrades and new models of aircraft.

Planned modernization of aircraft, upgrades and equipment modifications are further complicating this issue. Newer aircraft, such as the Super Hornet (FA-18E/F) and Joint Strike Fighter

(JSF) are equipped with bigger engines and make more noise.

Point in fact: the Super Hornet is quickly nearing introduction to the fleet. Yet engine noise levels, according to test data, can go up to 140 dB with the aircraft in full afterburner. Add in ambient noises associated with carrier flight-deck operations and the cumulative noise levels can exceed 150 dBs.

We have put ourselves between a rock and a hard place. Personnel protection has not kept pace with equipment advances. Several groups are actively trying to address this problem, including the Vibro-Acoustic Team studying the USAF Joint Strike Fighter; the CV Environmental Group; and the Tri-Service Environment Noise Reduction Group (TENOR). Suppression of this hazard will be crucial in the coming months and years. We need improved platforms, but you can't launch if you don't have the people to execute the plan.

Information provided by Mr. Kurt Yankaskas, NAVSEA; Capt. Hain, NAMRL.

Problems With E-2 Torso-Harness Fixed

During egress training at VAW-77, using the new PCU-56/P torso harness, one of the aircrew could not separate from the seat and parachute-riser. Tension on the upper parachute straps needed to be eased in order to activate the release fitting.

Half of the VAW-77 squadron aircrew use this same torso harness, and everyone had reported problems: it was hard to strap into the seat, they had a limited range of motion, or they couldn't reach controls while strapped in.

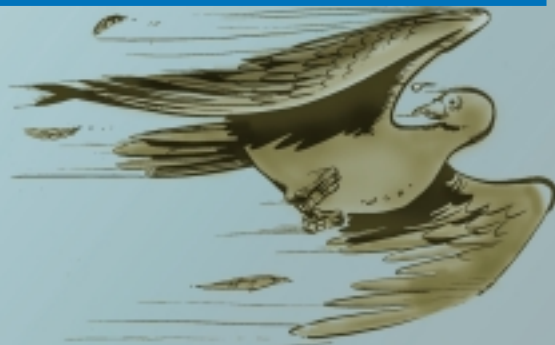
A NAWC China Lake representative and the Failsafe tiger team visited several east-coast E-2 squadrons to view the problems. The result

was IRAC 118, which increases the length of the parachute-riser shoulder restraint straps from one-and-a-half inches to three inches. This change should eliminate the problems noted above, allow the aircrew more mobility and in an emergency, permit rapid egress from the aircraft.

For Hawkeyes a new parachute ensemble, called the "thin pack," is also on the horizon and expected by the end of CY99. The new ensemble will eliminate the torso harness, and the expected distribution plan is to retrofit one E-2 squadron per quarter. All E-2 squadrons should have the thin pack within three years.

Autumn BASH

The autumn migratory period (August through November) accounts for almost half of the BASH database (45 percent). Check the migratory information on the USAF BASH home page (<http://www-afsc.saia.af.mil>) before flying. Include it in your briefing SOP so you can reduce the risk of a bird strike.



"What Idiots!" or, It Takes One To Know One



by LCdr. Ed Miller

Flying a perfectly good aircraft into the water is something that could never happen to me. At least that's what I used to think. Yes, I've read the safety articles, the message traffic, and the investigation reports, I've shaken my head and thought, "What idiots." How could pilots with so much experience put themselves, their crews and aircraft in such a precarious position? I can tell you how because it happened to me.

The SoCal op area was beautiful. The seas were calm and the deck steady. My nugget had just completed his initial day deck-landing qualifications (DLQs), and I was pleased with his performance. My playmate had just arrived from the beach and was taking advantage of pinky time to complete his day quals before jumping directly into night bounces. I had to wait for dusk before starting my night bounces, so I decided to head to the OLF and top off the fuel tanks.

When I arrived, the sun had set, and I noted that the field was darker than normal. The tower told me field lighting was set to accommodate carrier night qualifications for four F-14s already in the pattern. I wasn't concerned because I was familiar with the field and could see all aircraft in the pattern.

I topped off, got clearance to taxi, and switched tower for takeoff. Winds were calm, so I requested a downwind takeoff to expedite my return to the ship and avoid the jets established in the pattern.

The night was black. I was flying from the left seat, handling communications on both UHF radios and had turned on my searchlight so everyone knew where I was. I had radar-altimeter-hold engaged, and I was prepared to establish a 500-fpm climb to 1,000 feet immediately after clearing the Class D airspace.

As I passed the cliff line, the master-caution light illuminated. I knew that the likely cause was the rapid altitude change caused by the sheer cliff as I went feet wet. I instructed my nugget to reengage altitude-hold and switch me to control as I climbed. The last altitude reference I saw was while passing 800 feet AGL with a positive 500-fpm ascent.

I was clear of the field, under positive control with the ship. My TACAN was locked onto mother, and I was feeling pretty good...until I looked through the front windscreen.

An eerie glow, unlike one I'd ever seen, suddenly caught my attention. The first thing I thought was that I'd flown into a fog bank. A microsecond later, I asked my copilot to check that the altitude hold was engaged.

He said it wasn't as I pulled collective, felt a sharp impact, and the nose yawed right. I looked at the altimeter now passing upward through 20 feet AGL and the

VSI at a 2,000-fpm climb. My heart had skipped a beat as I'd realized we'd hit the water, were still alive and climbing. I didn't care how high. It was enough we were going up.


Everyone was silent. I leveled off at 2,000 feet AGL, scanned instruments for abnormalities, and checked the aircraft for control response and unusual vibrations. I didn't see or feel any problems, but that didn't mean that we hadn't damaged the aircraft. The only way to positively determine damage was visually, and the ship was the closest verification point.

I raised paddles and asked for the OinC. He gasped in disbelief as I told him what had happened. I got permission for one approach and visual inspection from a hover. My spirits rose when I learned my landing gear was intact and the only damage noted was a dent in the aft data-link antenna.

The OinC and I agreed the safest course of action for me was to bingo to the NAS. Shortly thereafter, I was hover-taxiing to my line and shutdown.

So, what had happened? I had broken the basic rules of crew coordination. Worse yet, my crew was just as negligent as I was. As HAC, not only were my decision-making skills flawed, but so were my mission analysis, communication, leadership, and worst of all, situational awareness. I had set us up for disaster.

Why was I flying? That young aviator in the right seat had Navy wings and the ability to take us back to the boat. I should have delegated duties and looked at the big picture. I had lost the bubble. Not only was I not communicating, but I had grossly overtasked myself.

As for my crew, neither the copilot nor crewman exercised basic assertiveness skills. They had lost their SA, too. How was it possible that I could bring the aircraft from 800 feet AGL, through high RAWS (radar altitude warning system) index and variable RAWS setting with no one catching it? Why wasn't my AW monitoring the navigational parameters table with its associated radar-altitude display? Why wasn't my copilot backing me up on instruments? I can't tell you the answer in this instance, but I have a new respect for aircrew coordination. 

LCdr. Miller flies SH-60Bs with HSL-42.

Near Midair

With a Queen

Photo-composite by John Williams

As the flight controls and I battled each other to reach some sort of pilot-to-plane compromise, I noticed an object in my peripheral vision growing larger.

by Ltjg. Tim Buller

It was a humid evening in the touch-and-go pattern over Elizabeth City when my third training flight as a replacement pilot in the E-2C Hawkeye FRS almost became my last. My third time behind the cumbersome controls of the Hawkeye reinforced every instructor pilot's admonishment to "keep your head on a swivel to avoid traffic."

My IP and I had been working runway 10. I was wrestling the snakes in the cockpit after lifting off from touch-and-go number three when I heard tower respond, "That's affirmative Greyhawk One One. You're cleared downwind and left closed traffic."

Passing 300 feet, I began my left, climbing turn to the downwind heading of 280, all the while trying to keep up with the 10,000 horses propelling me upward.

With an occasional glance outside, my scan on this beautiful VFR evening was focused on the instruments. Work it on-speed, on altitude, coordinated rudder. Even though everything the training command had taught me focused on using external cues and visibility for flight safety, I was trying to tame 50,000 pounds of Grumman engineering, and my outside scan began to break down. Unbeknownst to me or my salty instructor, tower decided to clear a Beech Queen Air for takeoff on runway 01.

The Queen Air departed and climbed directly into the downwind for runway 10. The tower was operating on separate UHF and VHF frequencies, and as Murphy's Law states, "If it can go wrong, it will." In this case, we were working the UHF frequency while the civilian traffic worked the VHF frequency. Since tower was not simulcast-

ing on both frequencies, both aircraft crews were oblivious to each other.

I continued my left climbing turn to pattern altitude. The unique layout of the Hawkeye cockpit leaves the copilot blind to everything on the left side of the aircraft, including our ultimate destination of 1,000 feet on downwind. Consequently, two eyes were the only collision-avoidance system in the plane.

As the flight controls and I battled each other to reach some sort of pilot-to-plane compromise, I noticed an object in my peripheral vision growing larger. A nervous flutter in my stomach made me look outside. I couldn't believe what I saw: one of the Queen Air's engines coming closer as the Beech's plan view became enormous.

After deciding that 150 feet was as close as I'd like to come, and knowing there was no requirement to fly formation on this hop, I immediately pulled power, dumped the nose and started a shallow right bank. My instructor wrenched his head around to see what was going on, and after catching sight of the oncoming aircraft, he grabbed the controls and made an extremely aggressive move to bank our aircraft away from the civilian twin.

About a second after my defensive maneuvering, the Queen Air pilot saw me and banked left for separation. I passed below and right of the Queen Air, avoiding collision by a mere 150 feet.

How many times does as a naval aviator hear, "Aviate, navigate, communicate"? When it comes down to it, who is responsible for traffic separation? You are.

Ltjg Buller flies with VAW-117.

Everyone— Watch Me Land Gear Up!



by BMC(SW/DV) Richard D. Vitez

The P-3C launched from NAS Adak on a routine pilot-proficiency training flight for the PPC, 2P and 3P. We were flying with a minimum crew, which included the FE and myself. I was an AW3 (non-acoustic) radar operator and also the aft observer. The weather that winter morning was outstanding—sunny with partly cloudy skies. The air temperature was 40 degrees and the winds were from the northeast at 15 knots.

The takeoff was routine, and after three landings, I had permission to shift from the starboard aft observer seat to stand behind the co-pilot. The 3P was standing behind the PPC. I was glad to be up in the cockpit. The scenery is a lot better up there.

We flew into NAS Adak via the normal approach, from the sea. The mountain approach was extremely difficult.

We had just taken off for the fourth time. The PPC was flying the plane and changed approaches when I got up there. From the cockpit, the mountain approach was something else. As we progressed into a steep, right turn, the mountains were just a couple of hundred feet below us. The plane was turning and descending, getting into position to land. I braced myself on the back of the copilot's seat.

A couple of seconds later, we touched down; it was a perfect landing. We took off for another touch-and-go. The PPC was still at the controls and was going to land once more and change with the 2P. Watching the sequence was exciting for me. Just like the first approach, everyone was getting into it.

As we were making that steep, right turn, the pilots were excitedly discussing the approach. I'll always remember viewing the mountains that close to the aircraft. There was a lot of turbulence, and the

plane was bouncing a lot. The turn and approach were perfect. The plane rolled out on final, and we were getting ready to land. I braced myself behind the copilot seat for the landing.

We were just about to touch down when the PPC said, "I don't feel right about this," and waved off. He applied full power, and we were climbing away. The PPC started going over the takeoff checklist. He told the 2P, "Gear up." As the jaygee reached for the lever to bring up the gear, he looked at the PPC and said, "The gear is already up."

There was a moment of stone-cold silence in the cockpit. Everyone knew how close we had come to making a gear-up landing and getting hurt or killed. I shifted back aft to the starboard observer seat where I should have been. The 3P also jumped in a seat. The PPC made a normal approach and landing.

After postflight, the pilots filed a near-mishap report. We had missed the step of lowering the landing gear in the landing checklist.

The following morning, we were scheduled to fly again and we did. 🦅

BMC Vitez is now assigned to the Naval Safety Center as a diving safety analyst.

Even with five people in the flight station—the number allowed for training and observer positioning, so long as there is emergency seating available for the two not strapped in—you've got to maintain good situational awareness. Many communities have gone to mandatory gear checks passing 500 feet AGL to prevent unintentional gear-up landings. When it comes to gear-up passes, there are those who have and those who will. —LCdr. Mike Rogers, NSC P-3 analyst.

I'm Not Ready for My "Dir

I looked down to check our fuel state, and when I looked back up I saw a flash go by the windscreen.



t Nap" !

by Lt. Randy Rogers

It was the second week of Operation Allied Force. We were getting comfortable with the operation, maybe too comfortable. The mission for the day was the same as the day before, and the day before that: multiple refuelings and multiple vulnerability windows to cover. The entire flight would take almost seven hours.

We were leaving the AOR after our second vulnerability window and proceeding to the tanker. The route to the tanker was becoming very familiar and involved transiting through several altitude blocks. It was a clear day, and we had no problems seeing the other aircraft.

I looked down to check our fuel state, and when I looked back up I saw a flash go by the windscreen. Looking in the mirror, I saw the tail end of an F-16 doing a roll. When I got my voice back and my heart started beating again, I told the crew that everyone should be looking out for traffic because we almost had a midair with an F-16.

ECMO 3 quickly asked, "Is that what just flashed by our canopy?"

How is it that a single-seat fighter almost hits an airplane with four crewmembers? Granted that the two crewmembers in the back can't see much, but what about the aircraft that is overtaking you? Or the one that is approaching from your seven to ten o'clock? A quick word from your backseater can save the entire crew. It may have to be a simple command like, "Break left," "Climb," or even "Dive."

You probably will not have time to say, "Traffic, nine o'clock, level." We certainly didn't have time in our case.

What did we do to put ourselves in this position? Our main error was going through the striker's altitude block to get down to our tanker altitude. This transit was necessary, but we were doing it at about 1,000 to 2,000 feet per minute. When you have to fly through another aircraft's altitude block, do it as quickly as possible, and get down to the safe altitude block you have been given. See-and-avoid principles always apply, but when you are in high-density areas such as a tanker track, someone should always be looking outside.

With two aircraft approaching head-on at 400 KIAS, you have 800 KIAS of closure. That means it takes about one minute to cover 13 nautical miles. How far away can you see an F-16 approaching you head-on? It took me only a couple of seconds to check our gas, but if the F-16 pilot had been doing the same thing, it would have been five lifetimes.

What was ECMO 1 doing? Did I tell him I was going to be inside the cockpit and to keep an eye out? No, but I should have, and I do now.

I hope you get a wakeup call instead of a permanent dirt nap. 

Lt. Rogers flies with VAQ-134.

Photo-composite by Allan Amen.

by Lt. Vikram Sardana

It was nearing the end of cruise, and I was finishing up my level-three qualifications. Today was a BFMC flight, which involved some dynamic flying and one of our fighter bubbas, simulating a category-4 threat aircraft. I had prepped for the flight the previous night by studying the various canned maneuvers and going over the flow with my pilot. The next day, I gave a brief rundown of the event to my instructor. I felt prepared and rested.

During the brief, the adversary pilot gave us SEAD types some gouge on air-to-air combat. The weather worried me, however. Squadronmates returning from earlier flights said the weather was better south of the boat. I called Strike and had our working area moved accordingly. I really wanted to complete this qual before the air wing took off in different directions after cruise.


Maintenance gave us aircraft 501, fresh from a Pro “A,” with no pods. Yippee! More “G” available and better performance.

The man-up went smoothly, or so I thought at the time. The flight, with some minor weather adjustments, was uneventful but instructive. The Case II recovery went fine, and it wasn’t until I started unstrapping from the ejection seat that I realized what I had done: My right arm was through the parachute strap, not under it

as it should have been. An ejection would have seriously injured my right arm! I’d never done that before, and I wondered what could have caused this problem.

Although I had not flown in the front seat for a couple of weeks, I had flown in the back several times with the same ejection seats (only the sequencer and timing were different). Why was this flight different from others?

I now realize I wasn’t focused when I manned up. I was worrying about whether we would get the flight out, troubleshooting a stalled manual alignment, and making sure I fully understood the upcoming maneuvers. This combination made me lose concentration on what I was doing. After five and a half months on cruise, I was probably a little blase, too.

The lesson I re-learned here was that you can’t lose sight of the immediate. We can’t complete the event unless we launch. We can’t launch unless we man up, and this means doing each one of those steps right. I lost sight of what I was doing that day by looking too far ahead. If something had gone wrong, and we had ejected, I probably would have had a lot of problems disentangling myself from my chute, getting into my raft and a host of other activities that I use both arms for but take for granted. 

Lt. Sardana flies with VAQ-135.

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Wrong-Way Strap-In



OK, I'm Ready To Land Now Continued from page 13.

150 nm from base, and if the transfer tank indeed failed to work properly, the fuel remaining in the feed tank would be the only fuel available to that respective engine.

We troubleshooted the problem. What disturbed us most was we had no other secondary indications in the cockpit, one in particular, the failure of a transfer boost pump. We discounted the possibility of equalizing the quantities of fuel between the feed tanks by opening an interconnect valve because we weren't sure what was causing the problem and had no other backup method.

After each pass, we noticed the No. 1 feed tank's quantity diminish slightly. Eventually, during the last pass, it indicated 800 pounds, and we decided to bingo back to base. We declared minimum fuel to ATC and were handled accordingly.

Flying the appropriate profile, we reached the terminal area with 200 pounds remaining in the feed tank. NATOPS tells us of the possibility of flaming out at such a low state because fuel sloshing may interrupt continu-

ous fuel flow to the engine. At this point, we expected the engine might flame out. But, we landed, rolled out and taxied off the duty runway, with the engine in question still running. We shared a sigh of relief, but wondered exactly what had failed.

An inspection by maintenance revealed that a flapper valve had failed, and the transfer tank was indeed transferring fuel to the feed tank at a rate slow enough to keep it from filling, but fast enough to keep the engine from flaming out, a failure I had not encountered.

With aging airframes, we have to make it part of our ORM to include the possibility that parts we take for granted may wear out. An unexpected failure can lead to a "data gathering sortie," which may be similar to how a test pilot really feels on a flight. Being proactive and knowing NATOPS cold will one day save us from a possible mishap. Of course, this is your typical hindsight, but for me, I wanted to be on the ground at that moment.

Lt. Aranda flies with VS-32.

On Cat 1

Coming Attractions for October

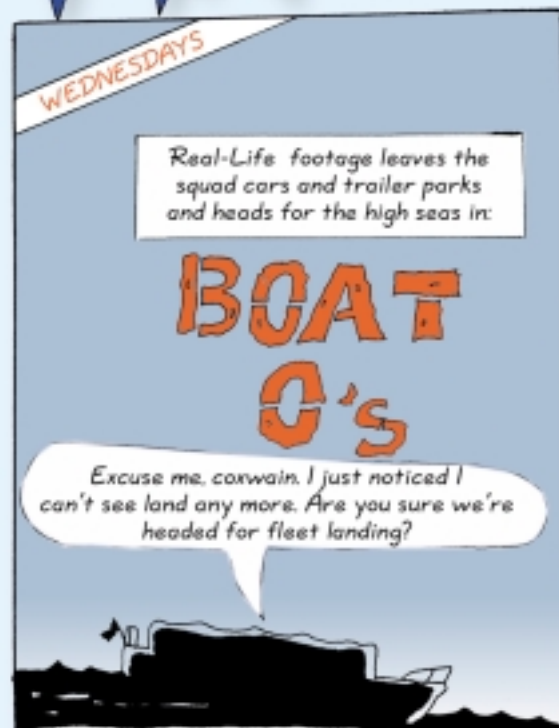
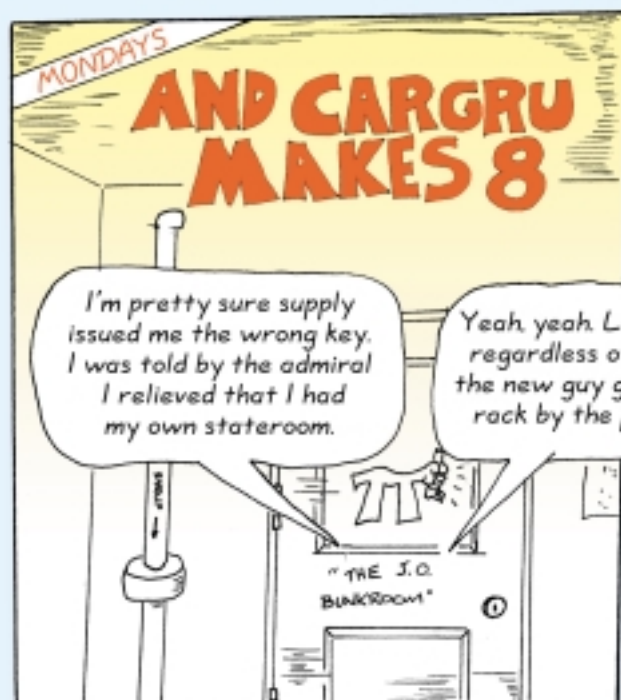
- **HARMS, Gainfuls and the Little Things That Can Kill You**
- **Rings Are Dangerous**
- **Chiefs Always Take Care of JOs**



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by Cdr. Ward Carroll

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